

CLAIMS

1. Graphite nanospheres having a structure comprising a plurality of pyramids of multilayer graphite disposed with no spaces therebetween with their apexes concentrated at a center,

overall or partial appearance thereof being almost spherical.

2. Graphite nanospheres having a structure comprising a plurality of frustum of pyramids of multilayer graphite disposed with no spaces therebetween with their apexes concentrated at a center,

overall or partial appearance thereof being almost spherical hollow nanospheres.

3. The graphite nanospheres according to Claim 1 or 2, wherein the maximum outer diameter is 1 to 1000 nm.

4. The graphite nanospheres according to any one of Claims 1 to 3, wherein the appearance is almost ellipsoidal spherical.

5. The graphite nanospheres according to any one of Claims 1 to 3, wherein the appearance is almost semi-spherical.

6. The graphite nanospheres according to any one of Claims 1 to 5, wherein the c-axis of the graphite layer is aligned within an angle of $90 \pm 30^\circ$ relative to the almost spherical surface.

7. A method for preparing graphite nanospheres according to any one of Claims 1 to 6,

carbon atoms or clusters at a temperature of no less than 1000°C being emitted in an inert gas atmosphere under a pressure of 5 to 10 atm.

8. The method according to Claim 7 for preparing graphite nanospheres, wherein carbon atoms or clusters at a temperature of no less than 1000°C are emitted by irradiating a carbon target with a CO₂ laser in an inert gas atmosphere under a pressure of 5 to 10 atm.

9. The method according to Claim 7 or 8 for preparing graphite nanospheres, wherein the maximum outer diameter of the graphite particles is controlled by changing the kind of the inert gas, the pressure or the temperature.

10. A method for preparing graphite nanospheres, wherein the maximum outer diameter and shape of the graphite nanospheres are changed by peeling graphite layers of the graphite nanospheres obtained by the method according to any one of Claims 7 to 9.

11. The method according to Claim 10 for preparing graphite nanospheres formed into almost ellipsoidal spherical or semi-spherical by peeling the graphite layers of the graphite nanospheres.

12. The method according to Claim 10 or 11 for preparing graphite nanospheres, wherein the graphite layers are peeled by agitating the graphite nanospheres dispersed in a solvent.

13. The method according to Claim 10 or 11 for preparing graphite nanospheres, wherein the graphite layers are peeled by agitation after confining the graphite nanospheres and a gas together in a vessel.

14. The method according to Claim 10 or 11 for preparing graphite nanospheres, wherein the graphite layers are peeled by grinding the graphite nanospheres sandwiched between two smooth surfaces.